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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,650	03/05/2002	Young-Sik Kim	2080-3-76	8512

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LEE, HONG, DEGERMAN, KANG & SCHMADEKA, P.C.
801 SOUTH FIQUEROA STREET
14TH FLOOR
LOS ANGELES, CA 90017

EXAMINER

GIESY, ADAM

ART UNIT	PAPER NUMBER
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2656

DATE MAILED: 11/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/092,650

Applicant(s)

KIM, YOUNG-SIK

Examiner

Adam R. Giesy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueyanagi (US Pat. No. 6,700,856 B2) in view of Hatano (US Pat. No. 6,940,803 B2).

Regarding claim 1, Ueyanagi discloses a lens for an optical recording and reproducing system (Figure 9A, element 6) comprising: a plane of incidence on which a light generated from a light source is made incident (6a); a first reflection side for reflecting a light passing through a plane of incidence (7); and a second reflection side for reflecting again the light that has been reflected on the first reflection side (6e), the second reflection side being formed to be a sphere side (see column 14, line 28), and the first reflection side and the second reflection side being coated with a reflection material (see column 14, lines 29 and 34). Ueyanagi does not disclose the second side as being elliptical – only spherical.

Hatano discloses a similar optical system with a lens. The lens (Figure s 12 and 16) has two sides (F1 and F2) which reflect the light into a focal point. Hatano also discloses that either side may be curved in any various shapes including an elliptical surface while the other surface is a plane (see column 14, lines 46-59 – see especially lines 54-55 and 57-59)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the optical lens as disclosed by Ueyanagi with the optical lens curvature characteristics as disclosed by Hatano, the motivation being to obtain a better method of focusing the reflected light within the lens to increase the fidelity of the optical recording and reproducing system.

Regarding claim 2, Ueyanagi and Hatano disclose all of the limitations of claim 1 as discussed in the claim 1 rejection above, and further that one of two focal points of spherical side is positioned on the first reflection side (see figure 9A – the light is reflected from side 6e and focused on element 8 which is considered to be on the first reflective side).

Regarding claim 3, Ueyanagi and Hatano disclose all of the limitations of claim 2 as discussed in the claim 2 rejection above, and further that a step is formed at the focal point portion of the first reflection side (Figure 9A, element 8).

Regarding claim 4, Ueyanagi and Hatano disclose all of the limitations of claim 3 as discussed in the claim 3 rejection above, and further that the step has a size of 0.1 ~ 100 nm (column 14, lines 65 and 66).

Regarding claim 5, Ueyanagi and Hatano disclose all of the limitations of claim 1 as discussed in the claim 1 rejection above, and further that a point symmetrical to another focal point of the spherical side with respect to the first reflection side is positioned at the plane of incidence (Figure 9A – the left most incident light ray that is depicted creates a focal point from the ellipsoid side that is symmetrical with the focal point from the right-most incident light ray hitting the ellipsoidal side).

Regarding claim 6, Ueyanagi and Hatano disclose all of the limitations of claim 5 as discussed in the claim 5 rejection above, and further that the plane of incidence is formed convex (Figure 6, element 6A).

Regarding claim 7, Ueyanagi and Hatano disclose all of the limitations of claim 5 as discussed in the claim 5 rejection above, and further that the plane of incidence is formed concave (Figure 9A, element 6a).

Regarding claim 8, Ueyanagi and Hatano disclose all of the limitations of claim 5 as discussed in the claim 5 rejection above, and further that a hologram is formed at the plane of incidence (see column 13, line 66 thru column 14, line 13).

Regarding claim 9, Ueyanagi and Hatano disclose all of the limitations of claim 1 as discussed in the claim 1 rejection above, and further that one of the two focal points of the spherical side is positioned lower than the first reflection side (see Figure 7A – the reflected light is depicted as focusing below element 8. This is in contrast to Figure 10A where the reflected light rays are focused right on element 8. Since element 8 is considered to be part of the first reflective side, the light rays in Figure 7A are depicted as having a focal point below the first reflective side).

Regarding claim 10, Ueyanagi discloses a lens for an optical recording and reproducing system (Figure 9A, element 6) comprising: a plane of incidence on which a light generated from a light source is made incident (6a); a first reflection side for reflecting a light passing through a plane of incidence (7); and a second reflection side for reflecting again the light that has been reflected on the first reflection side (6e), the second reflection side being formed to be a sphere side (see column 14, line 28), and

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the first reflection side and the second reflection side being coated with a reflection material (see column 14, lines 29 and 34), wherein one of two focal points of spherical side is positioned on the first reflection side (see figure 9A – the light is reflected from side 6e and focused on element 8 which is considered to be on the first reflective side), and a point symmetrical to another focal point of the ellipsoidal side with respect to the first reflection side is positioned at the plane of incidence (Figure 9A – the left most incident light ray that is depicted creates a focal point from the spherical side that is symmetrical with the focal point from the right-most incident light ray hitting the spherical side). Ueyanagi does not disclose the second side as being elliptical – only spherical.

Hatano discloses a similar optical system with a lens. The lens (Figures 12 and 16) has two sides (F1 and F2) which reflect the light into a focal point. Hatano also discloses that either side may be curved in any various shapes including an elliptical surface while the other surface is a plane (see column 14, lines 46-59 – see especially lines 54-55 and 57-59)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the optical lens as disclosed by Ueyanagi with the optical lens curvature characteristics as disclosed by Hatano, the motivation being to obtain a better method of focusing the reflected light within the lens to increase the fidelity of the optical recording and reproducing system.

Regarding claim 11, Ueyanagi and Hatano disclose all of the limitations of claim 10 as discussed in the claim 10 rejection above, and further that a step is formed at the focal point portion of the first reflection side (Figure 9A, element 8).

Regarding claim 12, Ueyanagi and Hatano disclose all of the limitations of claim 11 as discussed in the claim 11 rejection above, and further that the step has a size of 0.1 ~ 100 nm (column 14, lines 65 and 66).

Regarding claim 13, Ueyanagi and Hatano disclose all of the limitations of claim 10 as discussed in the claim 10 rejection above, and further that the plane of incidence is formed convex (Figure 6, element 6A).

Regarding claim 14, Ueyanagi and Hatano disclose all of the limitations of claim 10 as discussed in the claim 10 rejection above, and further that the plane of incidence is formed concave (Figure 9A, element 6a).

Regarding claim 15, Ueyanagi and Hatano disclose all of the limitations of claim 10 as discussed in the claim 10 rejection above, and further that a hologram is formed at the plane of incidence (see column 13, line 66 thru column 14, line 13).

Regarding claim 16, Ueyanagi and Hatano disclose all of the limitations of claim 10 as discussed in the claim 10 rejection above, and further that one of the two focal points of the spherical side is positioned lower than the first reflection side (see Figure 7A – the reflected light is depicted as focusing below element 8. This is in contrast to Figure 10A where the reflected light rays are focused right on element 8. Since element 8 is considered to be part of the first reflective side, the light rays in Figure 7A are depicted as having a focal point below the first reflective side).

Response to Arguments

3. Applicant's arguments, see page 8 last paragraph thru the top of page 9, filed on 9/1/2005, with respect to the rejection(s) of claim(s) 1 under 35 U.S.C. 102(e) have

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been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of a new reference under 35 U.S.C. 103(a) using the initial reference by Ueyanagi and adding the disclosure of Hatano. Hatano discloses a curved lens for use in a like optical recording and reproducing apparatus in which the sides can be elliptical. The combination of these two references – the invention by Ueyanagi and the nature of the curved lens as disclosed by Hatano – fully teach each of the claimed limitation of the present application.

Conclusion


4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adam R. Giesy whose telephone number is (571) 272-7555. The examiner can normally be reached on 8:00am- 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ARG 11/10/2005

ARG


HOA T. NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

11/13/05